

WO 99/31223

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CLAIMS

PCT/NL98/00721

1. A process for production of a meat product said process comprising the culturing in vitro of animal cells in medium free of hazardous substances for humans on an industrial scale thereby providing three dimensional animal muscle tissue suited for human and/or animal consumption, followed by further processing steps of the cell culture to a finished food product analogous to known processes for meat comprising food products without requiring deboning, removal of offal and/or tendon and/or gristle and/or fat, preferably said meat product comprising solidified cell tissue, said cells being selected from muscle cells, somite cells and stem cells.

2. A process according to claim 1 wherein the cell culture is carried out using a culture vessel with a volume larger than 5 litres, preferably larger than 1000 litres, more preferably larger than 5000 litres.

a 3. A process according to ^{Claim 1} ~~any of the preceding claims~~ wherein the culture step is carried out using a trabeculated three dimensional matrix for the cell growth using suitable medium for muscle cell growth, somite cell growth or stem cell growth under suitable conditions for said growth and wherein the matrix is optionally later removed in a manner known per se.

a 4. A process according to ^{Claim 1} ~~any of the preceding claims~~ wherein the cell culture is carried out in suspension using suitable medium for muscle cell growth, somite cell growth or stem cell growth under suitable conditions for said growth in a manner known per se for cell culture.

a 5. A process according to ^{Claim 1} ~~any of the preceding claims~~ wherein the cell culture is carried out in monolayer cell culture using suitable medium for muscle cell growth, somite cell growth or stem cell growth under suitable conditions for said growth, followed by contacting a number of said layers thereby forming a three dimensional food product comprising multiple layers of muscle cells, somite cells or stem cells in three dimensions.

35a 6. A process according to ^{Claim 1} ~~any of claims 1-4~~ wherein the resulting cells are

WO 99/31223

20

PCT/NL98/00721

compacted to a three dimensional meat product.

a 7. A process according to ^{Claim 1} ~~the preceding claims~~, wherein the growth medium consists merely of physiologically acceptable components.

5

a 8. A process according to ^{Claim 1} ~~any of the preceding claims~~, wherein the cultivation conditions of the cells comprise contact with O₂ and CO₂ e.g. under approximately 5% CO₂ and at body temperature for the in vivo environment of the animal cell being cultured in general at approximately 37°C and under sterile conditions.

10

a 9. A process according to ^{Claim 1} ~~the preceding claims~~, wherein the process further requires addition of nutritional and/or flavour providing compounds e.g. salts and/or spices, such nutrient being added to the growth medium in a form accessible either to the cell or in a form such that it is incorporated in the final product during the processing of the cell culture to the final product e.g. in the form of a precipitate mixed in with the cells as such or else incorporated within the cells themselves.

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10. A process according to any of the preceding claims, wherein the growth medium comprises growth factors for the cells, said growth factors being within physiological limits.

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a 11. A process according to ^{Claim 1} ~~any of the preceding claims~~ wherein the original cells used in the culture are muscle cells.

25 *a* 12. A process according to ^{Claim 1} ~~any of the preceding claims~~ wherein the original cells used in the culture are stem cells.

a 13. A process according to ^{Claim 1} ~~any of the preceding claims~~ wherein the original cells used in the culture are somite cells.

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a 14. A process according to ^{Claim 1} ~~any of the previous claims~~ comprising a further processing step of the cell culture selected from solidification, drying, freeze-drying, freezing, pickling, boiling, cooking, smoking and packing.

WO 99/31223

PCT/NL98/00721

21

- a 15. A process according to ^{claim 14} ~~the previous claim~~ further comprising a food processing step such as processing to any of the following consumption forms a meat substitute, soup, pie, sausage, spread, stew, baby food e.g. puree, biscuit, dried granules, tablet, capsule, powder or other solid or liquid forms in a manner known per se for producing meat comprising products derived from in vivo meat production.

Sub B1 16. A meat product, consisting of in vitro produced animal cells in a three dimensional form i.e. comprising multiple cell layers of animal cells in three dimensions, said meat product being free of fat, tendon, bone and gristle, said cells being selected from muscle cells, stem cells or somite cells.

Sub B2 17. A meat product derivable from a process according to ^{claim 1} ~~the claims 1-15~~.

a 18. A meat product according to ^{claim 16} ~~any of the claims 16 or 17~~ free of growth hormones in amounts hazardous for consumption.

a 19. A meat product according to ^{claim 16} ~~any of the claims 16-18~~ further comprising nutritional additives such as vitamins and minerals to further enhance the nutritional value thereof.

a 20. A meat product according to ^{claim 16} ~~any of the claims 16-19~~ in a solid state and texture comparable with that of in vivo derived meat.

a 21. A meat product according to ^{claim 16} ~~any of the claims 16-20~~ in a form selected from fresh, dried, frozen, pre or partially cooked, pickled or smoked as such or incorporated in a further processed food product such as soup, stew, sausage, spread, puree e.g. baby food, biscuit, dried granules, tablet, capsule, powder or other solid or liquid form.

a 22. A meat product according to ^{claim 16} ~~any of the claims 16-21~~ in a unit form e.g. of at least 50 grams, preferably at least 100 grams.

23. A meat product such as soup, stew, sausage, spread, puree e.g. baby food, biscuit dried granules, tablet, capsule, powder or other solid or liquid form comprising

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WO 99/31223

PCT/NL98/00721

a the food product according to ^{claim 15}~~any of claims 15-22~~²² as ingredient.